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EXAMINER

CHEA, PHILIP J

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/658,701	Applicant(s) OULD-BRAHIM, HAMID	
	Examiner PHILIP J. CHEA	Art Unit 2453	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/18/09</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office Action is in response to an Amendment filed 6/18/09. Claims 1-17 are currently pending. Any rejection not set forth below has been overcome by the current Amendment.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Gonda et al. (US 6,662,221), herein referred to as Gonda.

As per claims 1,9,17, Gonda discloses a network for providing switched virtual circuit Layer-2 VPNs, said network comprising:

a set of elements interconnected by services (see column 4, lines 15-25, *describing elements in the form of computer systems connected by services provided by a corporate center*);

at least one first subset of elements defining a private network (see column 4, lines 40-47, *showing at least one of the subset of elements can be connected to a private network*);

at least one second subset of elements different from said first subset defining a provider network wherein at least two subgroups of said first subset of elements may be connected via said provider network (see Fig. 1, *showing provider network [12] and two subgroups of said first subset [14] and [16] are connected via said provider network* see column 4, lines 22-25 and lines 21-36);

a provisioning mechanism used to define element membership in said first subset of elements (see column 9, lines 28-29 and lines 35-40, *describing how customer information is created and a provisioning mechanism to support the customer*);

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a plurality of customer ports maintained on said elements of said first subset of elements (see column 8, lines 31-40, *describing customer port designation for the VPN*);

a plurality of providing ports maintained on said second set of elements, each of said plurality of provider ports connected by data and signaling services to a customer port (see column 14, lines 26-36, *describing the port and port types associated with the customer equipment to configure the customer equipment implying data and signaling services that are used to communicate with the customer equipment*);

a port information table at each element of said provider network having a provider port, said port information table containing mapping information relating addresses of customer ports to addresses of provider ports for said first subset of elements (see column 14, lines 26-36 *showing how the router can connect to the server via the designated ports*); and

a signaling mechanism used to create Layer-2 connectivity between elements within said first subset of elements at the Layer-2 level across said second subset of elements (see column 4, lines 42-46 and column 8, lines 45-46, *describing a layer-2 tunneling protocol in the form of IP Secure*).

As per claims 3 and 11, Gonda further discloses an auto-discovery mechanism for distributing said mapping information to port information tables of said provider network (see column 11, lines 37-45 and lines 56-58).

As per claims 5 and 13, Gonda further discloses that the provisioning mechanism operates in conjunction with said signaling mechanism to restrict element connectivity to elements of said first subset (see column 11, lines 56-62).

As per claims 6 and 14, Gonda further discloses that the signaling services having IP signaling services (see column 4, lines 42-46 and column 8, lines 45-46).

As per claims 7 and 15, Gonda further discloses that the customer port addresses need be unique only within said first subset of elements (see column 8, lines 29-40, *where the virtual private network implies network ports that only elements within the unique VPN share and receive data since other ports will be a part of a different VPN, that is, virtually separated distinct networks with unique addresses and ports used for those networks*).

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Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonda as applied to claims 1 and 9 above, and further in view of Rosen et al. ("An Architecture for L2VPNs"), herein referred to as Rosen, taken from the IDS filed January 19, 2006.

As per claims 2 and 10, although the system disclosed by Gonda shows substantial features of the claimed invention (discussed above), it fails to disclose that the signaling mechanism is an MPLS signaling mechanism.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Gonda, as evidenced by Rosen.

In an analogous art, Rosen discloses Layer 2 VPN service over IP backbone by provisioning virtual circuits that run through IP tunnels (see Abstract). Rosen further discloses that MPLS is an old and well known tunneling technology used for Layer 2 VPNs among other tunneling technologies such as L2TP and IPsec (see page 6, "Signaling").

Given the teaching of Rosen, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Gonda by employing MPLS, such as disclosed by Rosen, in order to provide a tunneling protocol without substantial overhead.

5. Claims 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonda as applied to claims 3 and 11 above, and further in view of Gibson (US 2002/0186664).

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As per claims 4 and 12, Although the system disclosed by Gonda shows substantial features of the claimed invention (discussed above), it fails to disclose that the auto-discovery mechanism for distributing said mapping information uses Border Gateway Protocol.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Gonda, as evidenced by Gibson.

In an analogous art, Gibson discloses a system for topology constrained QoS provisioning between a plurality of sites in a Virtual Private Network (see Abstract). Gibson further discloses using the well known Border Gateway Protocol with MPLS VPNs to deliver packetized data between nodes/sites (see paragraph 22).

Given the teaching of Gibson, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Gonda by employing Border Gateway Protocol, such as disclosed by Gibson, in order to support a decentralized routing protocol.

6. Claims 8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gonda as applied to claims 1 and 9 above, and further in view of Xu (US 2002/0032766).

Although the system disclosed by Gonda shows substantial features of the claimed invention (discussed above), it fails to disclose that the customer port addresses and provider port addresses use an addressing scheme chosen from the group of IPv4, IPv6, and NSAP.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Gonda, as evidenced by Xu.

In an analogous art, Xu discloses a system of delivering a network service by delivering data using a service address and packet payload (see Abstract). Xu further discloses IPv4 or IPv6 addressing schemes used for IP addresses and service ports (see paragraph 92).

Given the teaching of Xu, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Gonda by employing IPv4 or IPv6 addressing scheme, such as disclosed by Xu, in order to be compatible with conventional TCP/IP networking protocols.

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Response to Arguments

7. Applicant's arguments filed 6/18/09 have been fully considered but they are not persuasive.

A) Applicant contends that Gonda does not disclose a port information table containing mapping information relating addresses of customer ports to addresses of provider ports.

In considering A), the Examiner respectfully disagrees. The claim limitation merely suggests containing mapping information. Gonda discloses mapping information because customer port numbers are recorded to keep track of how the customer is connected to the VPN (see Fig. 10D).

B) Applicant contends that Gonda fails to teach creating a Layer-2 Port Information Table for each provider port.

In considering B), the Examiner respectfully disagrees. Gonda teaches a layer-2 tunneling protocol in the form of IP Secure. Since IP Secure is used to connect the elements of the network, Layer-2 connectivity is created.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHILIP J. CHEA whose telephone number is (571)272-3951. The examiner can normally be reached on M-F 6:30-4:00 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on 571-272-6776. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Philip J Chea
Examiner
Art Unit 2453

/Philip J Chea/
Examiner, Art Unit 2453
10/6/09